(c) providing a first heat carrying medium;

(d) forming a heat carrying medium vapor by heat exchange contact between the first heat carrying medium and the heat source material;

(e) transferring the heat from the heat carrying medium vapor to a heat temperature raising medium contained within a heat temperature raising unit that comprises a tube, a multiple tube assembly, multiple connected conduits, or multivoid metal blocks;

(f) applying a first pressure to the heat temperature raising medium;

(g) changing the pressure applied to the heat temperature raising medium from the first pressure to a second pressure to create a latent heat of fusion in the heat temperature raising medium;

(h) transferring the latent heat of fusion from the heat temperature raising medium to a second heat carrying medium to form a second heat carrying medium vapor, the temperature of the second heat carrying medium being higher than the temperature of the first heat carrying medium; and

(i) transferring the latent heat in the vapor of the second heat carrying medium to the material of the heat sink thereby raising the temperature T_H in the material of heat sink.

54. (Amended) A method for transferring heat from a heat source to a heat sink, comprising the steps of:

(a) providing a heat source comprising a material having a temperature T_L;

(b) providing a heat sink comprising a material having a temperature T_H, wherein temperature T_H is higher than temperature T_L;

(c) providing a first heat carrying medium;

(d) forming a heat carrying medium vapor by heat exchange contact between the first heat carrying medium and the material of the heat source, the temperature of the heat exchange being higher than the melting point of the material of the heat source;

(e) transferring the heat from the heat carrying medium vapor to a heat temperature raising medium contained within a heat temperature raising unit that comprises a tube, a multiple tube assembly, multiple connected conduits, or multivoid metal blocks;

(f) applying a first pressure to the heat temperature raising medium;

(g) changing the pressure applied to the heat temperature raising medium from the first pressure to a second pressure to create a latent heat of fusion in the heat temperature raising medium;

(h) transferring the latent heat of fusion from the heat temperature raising medium to a second heat carrying medium to form a second heat carrying medium vapor, the temperature of the second heat carrying medium being higher than the temperature of the first heat carrying medium; and

(i) transferring the latent heat in the vapor of the second heat carrying medium to the material of the heat sink thereby raising the temperature T_H in the material of the heat sink.

55. (Amended) A method for transferring heat from a heat source to a heat sink, comprising the steps of:

(a) providing a heat source comprising a material having a temperature T_L;

(b) providing a heat sink comprising a material having a temperature T_H, wherein temperature T_H is higher than temperature T_L;

(c) providing a first heat carrying medium;

(d) forming a heat carrying medium vapor by heat exchange contact between the first heat carrying medium and the heat source material;

(e) transferring the heat from the heat carrying medium vapor to a heat temperature raising medium contained within a heat temperature raising unit that comprises a tube, a multiple tube assembly, multiple connected conduits, or multivoid metal blocks;

(f) applying a first pressure to the heat temperature raising medium;

(g) changing the pressure applied to the heat temperature raising medium from the first pressure to a second pressure to form a latent heat of fusion in the heat temperature raising medium;

(h) transferring the latent heat of fusion from the heat temperature raising medium to a second heat carrying medium to form a second heat carrying medium vapor, the temperature of the second heat carrying medium being higher than the temperature of the first heat carrying medium; and

(i) transferring the latent heat in the vapor of the second heat carrying medium to the material of the heat sink thereby raising the temperature T_H in the material of the heat sink.

56. (Amended) The method as claimed in Claim 53, 54 or 55, wherein the heat temperature raising medium is selected from the group consisting of an organic or inorganic chemical, and mixtures thereof, either in a pure form or in a compound having a melting point range between -30° C and 100° C, with the proviso that when the heat temperature raising medium is selected from a mixture of compounds, the mixture has a eutectic point range between –30° C and 100° C.

57. (Amended) The method as claimed in Claim 53, 54 or 55 wherein the step of transferring heat from a heat source via a first heat carrying medium to a heat sink comprises multiple units of heat temperature raisers to elevate the temperature of the heat carrying medium by multiple steps.

58. (Amended) The method as claimed in Claim 53, 54 or 55, wherein said method of heat transfer is used in air-conditioning, distillative freezing, ice making, cable water purification, waste water treatment, desalination, distillation operation under ambient temperature or high temperature, or organic chemical purification and separation,.

61. (Amended) The method as claimed in Claim 53, 55, 56, 57, 58, 59 or 60, wherein heat conductive fins are positioned within the tube, the conduits of said multiple tube assembly, the tubes of said multiple connected tubes, or the voids of said multi-void block of the heat temperature rising unit.

Please add new claims 66-76 as follows.

66. (New) A method of operating a heat temperature raising system (HTR), to raise a heat temperature of a heat sink by providing a heat flow from a heat source to a heat sink; the steps comprising:

a. contacting a first heat carrying medium (HCM1) in a vapor producing chamber, wherein the HCM 1 will contact with the heat source to obtain heat from the heat source and induce evaporation of HCM1 to form a vapor which contains latent heat;

b. carrying the latent heat flow from the HCM1 vapor through one way valve means toward a heat temperature raising chamber comprising HTR; wherein HTR is made of one or more metallic tubes, the inside of the tubes containing heat temperature raising medium (HTRM) and provided with a pressurized device which will adjust the melting point of HTRM within the tubes;

and wherein metallic fins are contained inside of one or more of the tubes of HTR to improve heat transfer rate within the tubes;

c. carrying heat from the heat source in HCM1 vapor as its latent heat to the chamber where HTR is located, whereby HCM 1 vapor will condense on to the surface of the HTR tube and pass the latent heat to HTRM causing HTRM to melt and further store the heat as latent heat of fusion of HTRM;

d. applying a pressure to the HTRM, whereby the melting point of HTRM will increase to a desired temperature; HTRM will then pass the heat of fusion back to the HTR tubes and evaporate HCM on the outer surface of the tubes to produce HCM2 vapor, whereby the heat of

fusion of HTRM will pass the heat to a second heat carrying medium HCM 2 as latent heat of vaporization of HCM 2; and

e. Carrying the latent heat of HCM 2 through one way valve means toward a third chamber comprising an HCM 2 vapor condensing chamber whereby HCM 2 vapor will condense and pass its latent heat to the heat sink, whereby the temperature of the heat sink is raised.

67. (New) A method as claimed in claim 66, wherein the temperature for producing HCM 1 vapor is higher than the melting point of the heat source.

68. (New) A method as claimed in claim 66 wherein the valve means is placed between the HCM 1 vapor producing chamber and the HTR chamber, and between the HTR chamber and HCM 2 condensing chamber.

69. (New) A method as claimed in claim 66, claim 67 or claim 68 wherein HCM 1 carries heat from the heat source through the one way valve means to condense on the tube of the HTR and at least partially melt the HTRM within the tube, whereby after applying pressure, the HTRM will at least partially solidify and release its latent heat of fusion to evaporate HCM 2 to become vapor which will then go through the one way valve means to condense in the heat sink

70. (New) A method as claimed in claim 66, claim 67 or claim 68, wherein the HTRM the medium's latent heat of fusion is greater than 40 calorie per gram or 30 calorie per milliliter.

71. (New) A method as claimed in claim 66, claim 67 or claim 68 which comprises multiple sets of HTR in multiple steps to achieve the desired temperature.

72. (New) A method as claimed in claim 66, claim 67 or claim 68, wherein HCM 1 is water and is in indirect contact to obtain heat from the air to increase its sensible heat and allowing this water to flash vaporize in the HCM 1 vapor producing chamber to produce the HCM 1 vapor.

73. (New) A method as claimed in claim 66, claim 67, or claim 68, wherein HCM1 is at least partially vaporized by simultaneous vaporization and freezing to thereby produce a mass of solid process substance from the chemical feed and thereby produce HCM 1 vapor.

74. (New) A method as claimed in claim 66, claim 67 or claim 68, wherein HCM 1 is water vapor from the heat source.

75. (New) A method as claimed in claim 66, claim 67 or claim 68, wherein HCM is in indirect contact with air to remove heat from air to produce HCM 1 vapor.

76. (New) A method as claimed in claim 66, claim 67, or claim 68 wherein water is used as the heat source and as the water flows through the HCM 1 vapor producing chamber; the water flash vaporizes inside of the chamber to produce HCM 1 vapor to cool down the water flow.